**WHAT IS CLAIMED IS:**

1. A voltage control circuit which provides a test supply voltage during manufacturing and testing of a semiconductor device and an operational supply voltage after certification of the semiconductor device, the operational supply voltage being lower than the test supply voltage, the voltage control circuit comprising:

a clamp circuit having a plurality of voltage regulation devices, the voltage regulation devices controlling a clamping threshold of the clamp circuit;

a voltage regulator electrically coupled to the clamp circuit which generates a first control signal responsive to the clamping threshold of the clamp circuit;

a charge pump which receives the control signal from the voltage regulator, the charge pump generating the test supply voltage; and

at least one bypass device connected to at least one of the plurality of voltage regulation devices, wherein the at least one bypass device is activated following the certification of the semiconductor device to bypass the at least one of the plurality of voltage regulation devices from the clamp circuit to lower the clamping threshold of the clamp circuit, the voltage regulator generating a second control signal responsive to the lowered clamping threshold of the clamp circuit to cause the charge pump to generate the operational supply voltage.

2. The voltage control circuit of Claim 1, wherein the plurality of voltage regulation devices comprise diodes.

3. The voltage control circuit of Claim 2, wherein the diodes are implemented through transistors.

4. A voltage control circuit which provides a test supply voltage during manufacturing and testing of a semiconductor device and an operational supply voltage after certification of the semiconductor device, the operational supply voltage being lower than the test supply voltage, the voltage control circuit comprising:

a clamp circuit having a plurality of voltage regulation devices, the voltage regulation devices controlling a clamping threshold of the clamp circuit;

a voltage regulator electrically coupled to the clamp circuit which generates a first control signal responsive to the clamping threshold of the clamp circuit;

a charge pump which receives the control signal from the voltage regulator, the charge pump generating the test supply voltage; and

at least one bypass device connected to at least one of the plurality of voltage regulation devices, the bypass device comprising a fuse in series with a transistor, wherein the at least one bypass device is activated following the certification of the semiconductor device to bypass the at least one of the plurality of voltage regulation devices from the clamp circuit to lower the clamping threshold of the clamp circuit, the voltage regulator generating a second control signal responsive to the lowered clamping threshold of the clamp circuit to cause the charge pump to generate the operational supply voltage.

5. The voltage control circuit of Claim 4, wherein bypass device is activated by blowing the fuse.

6. The voltage control circuit of Claim 1, wherein value of the operational supply voltage is reduced for each voltage regulation device bypassed.

7. The voltage control circuit of Claim 1, wherein the voltage regulation devices limit the maximum voltage output of the clamp circuit.

8. The voltage control circuit of Claim 1, wherein the first control signal reduces the test supply voltage when the voltage regulation devices limit the output of the clamp circuit.

9. The voltage control circuit of Claim 1, wherein the second control signal reduces the operational supply voltage when the non-bypassed voltage regulation devices limit the output of the clamp circuit.

10. A voltage control circuit which provides a test supply voltage during manufacturing and testing of a semiconductor device and an operational supply voltage after certification of the semiconductor device, the operational supply voltage being lower than the test supply voltage, the voltage control circuit comprising:

means for controlling an output of a clamp circuit;

means for generating a first control signal based upon the output of the clamp circuit;

means for generating the test supply voltage;

means for limiting the output of the clamp circuit;

means for generating a second control signal based upon the limited output of the clamp circuit; and

means for generating the operational supply voltage.

11. The voltage control circuit of Claim 10, wherein the control means comprise diodes.

12. The voltage control circuit of Claim 11, wherein the diodes are implemented through transistors.

13. The voltage control circuit of Claim 10, wherein the limiting means comprises a fuse.

14. The voltage control circuit of Claim 10, wherein the limiting means comprises a transistor.

15. A voltage control circuit comprising:

a clamp circuit having a plurality of voltage regulation devices, the voltage regulation devices controlling a clamping threshold of the clamp circuit;

a voltage regulator electrically coupled to the clamp circuit, the voltage regulator generating a control signal responsive to the clamping threshold of the clamp circuit;

a charge pump electrically coupled to the voltage regulator, the charge pump generating a voltage in response to the control signal from the voltage regulator; and

at least one bypass device connected to at least one of the plurality of voltage regulation devices, wherein the at least one bypass device is reversibly activated to reversibly bypass the at least one of the plurality of voltage regulation devices from the clamp circuit, thereby modifying the clamping threshold of the clamp circuit.

16. The voltage control circuit of Claim 15, wherein the bypass device comprises a fuse in series with a control terminal of a transistor.

17. A method of providing a first supply voltage on a semiconductor device during a first period and a second supply voltage during a second period, the method comprising the steps of:

providing a plurality of voltage control elements;

establishing a first voltage control signal from the voltage control elements;

generating the first supply voltage from the first voltage control signal;

reversibly bypassing at least one of the plurality of voltage control elements;

establishing a second voltage control signal from the plurality of voltage control elements which are not reversibly bypassed; and

generating the second supply voltage from the second voltage control signal.

18. The method of Claim 17, wherein the first supply voltage has a voltage magnitude greater than the second supply voltage.

19. The method of Claim 17, wherein the plurality of voltage control elements comprise diodes.

20. The method of Claim 17, wherein reversibly bypassing at least one of the plurality of voltage control elements comprises applying a control signal to a bypass device.

21. The method of Claim 17, wherein the first supply voltage and the second supply voltage are generated by a charge pump.

22. The method of Claim 17, further comprising:

irreversibly bypassing at least one of the plurality of voltage control elements;

establishing a third voltage control signal during a third period from the plurality of voltage control elements which are not irreversibly bypassed; and

generating a third supply voltage from the third voltage control signal.

23. The method of Claim 22, wherein irreversibly bypassing at least one of the plurality of voltage control elements comprises blowing a fuse.

24. The method of Claim 22, wherein the at least one of the plurality of voltage control elements are irreversibly bypassed after testing of the semiconductor device.

25. A voltage control circuit for a semiconductor device, the voltage control circuit generating an internal supply voltage within the semiconductor device, the internal supply voltage derived from an external supply voltage that varies over a range of magnitudes, the voltage control circuit comprising:

a clamp circuit having a plurality of voltage regulation devices, the voltage regulation devices controlling a clamping threshold of the clamp circuit;

a voltage regulator electrically coupled to the clamp circuit which generates a first control signal responsive to the clamping threshold of the clamp circuit;

a charge pump which receives the control signal from the voltage regulator, the charge pump generating the internal supply voltage from the external supply voltage, the internal supply voltage varying in response to changes in the magnitude of the external supply voltage and having a magnitude greater than the magnitude of the external supply voltage by a differential magnitude responsive to the clamping threshold of the clamp circuit; and

at least one bypass device connected to at least one of the plurality of voltage regulation devices, wherein the at least one bypass device is activated following testing of the semiconductor device to bypass the at least one of the plurality of voltage regulation devices from the clamp circuit to lower the clamping threshold of the clamp circuit, the voltage regulator generating a second control signal responsive to the lowered clamping threshold of the clamp circuit to cause the charge pump to generate the internal supply voltage at an operational magnitude having a reduced differential magnitude with respect to magnitude of the external supply voltage.